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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,269	10/01/2001	Takashi Sasaki	001458.00014	5401

22907 7590 08/13/2003

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EXAMINER

BERMAN, SUSAN W

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 08/13/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,269

Applicant(s)

SASAKI ET AL.

Examiner

Susan W Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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Response to Amendments and Arguments

Original claims 1 and 2 are now presented as claims 17 and 18. Original claims 1-2, now claims 17-18, were elected by original presentation. Claims 1-16, presented in Amendment B are withdrawn from consideration as being drawn to a non-elected invention.

Applicant argues that none of the cited references discloses or suggests a resin composition for use in a process for producing a cured film as described in the claims (i.e., "having memory of a specified shape"). This argument is unpersuasive for the following reasons. The claims are not drawn to a resin composition, but to a process for using the resin composition. The recited process steps are shaping the resin composition, curing the resin composition with electron beams and removing the cured composition from the shaped parts or films. The composition is as defined in the instant claims. The process steps are taught in the cited art, as set forth in the rejections herein. The compositions disclosed in the cited art contain components that correspond to the components (a) and (b) set forth in the instant claims and to the components employed in the examples of the instantly claimed invention. It is well settled that when a claimed process reasonably appears to be substantially the same as a process disclosed by the prior art, the burden is on the applicant to prove that the prior art process does not necessarily or inherently possess characteristics attributed to the claimed process. Applicant has not provided any evidence of record to show that the cured compositions taught in the cited art do not have "memory of a specified shape", as set forth in the instant claims.

Priority

The continuing data has been corrected.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 11, the phrase "higher than at least 90 C" is indefinite because it is not clear whether the Tg is at least 90 C or higher than 90 C.

In claims 17 and 18, the word "methacryloyl" is misspelled "metacryloyl. In claim 17, in line 1, it is suggested that the word "that" be deleted and in line 12, the word "weigh" should be "weight".

Claim Rejections - 35 USC § 102/103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coady et al (4,608,409) in view of Newell et al (4,508,916). Coady et al disclose a process of coating an optical glass fiber with a composition and curing the composition with ultraviolet light. The Example teaches coating a glass plate, curing the coating composition and stripping the cured film from the glass plate. The composition employed comprises a polyacrylate-terminated polyurethane mixed with liquid acrylate-functional materials. High Tg acrylates, such as N-vinylpyrrolidone, isobornyl acrylate, dicyclopentenyl acrylate and acrylic acid, may be added (column 5, lines 13-22). A low Tg acrylate is added to confer softness and to adjust the viscosity of the composition. A linear aliphatic diacrylate may also be added. Coady et al do not mention the Tg of the urethane acrylate but do discuss the tensile modulus of the cured films, which is closely related to Tg, as stated in the instant specification on page 10. See Coady et al, column 6, lines 34-42. Coady et al do not mention whether the film produced would have the memory of a specified shape.

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Newell et al disclose compositions comprising urethane acrylates and diluent monomers (column 10, lines 29-60). The urethane acrylates are curable by UV radiation or by electron beam irradiation in the absence of an initiator (column 1, lines 38-49).

Coady et al disclose a process of coating a shaped material (optical glass fiber or glass plate) with a urethane acrylate/acrylate monomer composition, curing the composition using UV light and stripping the cured film from the shaped material it was coated onto. It would have been obvious to one skilled in the art to omit the photoinitiator from the compositions disclosed by Coady et al and to use electron beam irradiation instead of UV irradiation to cure the compositions, as taught by Newell et al for the curing of analogous acrylated urethane/ acrylate monomer compositions. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation that the compositions would cure successfully by irradiation with electron beam since the components of the disclosed compositions are known to be curable by electron beam irradiation. The glass plate or glass fiber disclosed by Coady et al meets the requirement for a "shaped part" in the instant claims. The composition applied and cured film obtained would be expected to take the shape of the plate or fiber. Since the compositions described by Coady et al comprise components within the definitions of the compositions set forth in the instant claims, the cured compositions disclosed by Coady et al would be expected to have the same property of having "memory of a specified shape" as set forth in the instant claims. The burden of proof is shifted to applicant to provide evidence to the contrary.

Claims 17 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hodakowski (4,116,786). Hodakowski discloses a process of applying a composition to a substrate, curing the composition by ionizing or non-ionizing radiation and removing the cured composition from the substrate. See column 6, lines 52-55, column 7, line 56, to column 8, line 8, and the Examples. The substrate has a shape and is, therefore, a "shaped part", as

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required in the instant claims. The composition comprises an acrylate-capped polyether urethane, a low molecular weight polyfunctional acrylate and a monofunctional acrylate. The Tg value of the acrylated polyether urethane is not mentioned.

The instantly claimed process is anticipated wherein the urethane acrylate oligomer disclosed by Hodakowski has a Tg value lower than 50 °C after polymerization and the low molecular weight compound, such as cyclohexyl acrylate or isobornyl acrylate, has a Tg value higher than at least 90 °C after polymerization. Alternatively, It would have been obvious to one skilled in the art to select a urethane acrylate having a Tg value lower than 50 °C after polymerization and the low molecular weight compound, such as cyclohexyl acrylate or isobornyl acrylate, having a Tg value higher than at least 90 °C after polymerization from the compositions disclosed by Hodakowski. The polyfunctional acrylate disclosed by Hodakowski can be an adduct of isophorone diisocyanate or toluene diisocyanate and hydroxyethyl acrylate (column 4, lines 61-68).

With respect to the instant claims, it is noted that the phrase "for producing a cured film having the memory of a specified shape" is a statement of an intended future property of the product resulting from the process set forth in the claims. There is no comparative showing of record that establishes that the processes disclosed by the references do not provide shape memory to the products obtained and that the process claimed by applicant does. In the absence of such a showing, it is the examiner's position that the process steps and composition taught in the cited references would be expected to provide shape memory properties. Furthermore, applicant, on page 4, lines 3-10, of the instant specification sets forth that ultraviolet curing in the presence of photosensitizers, as well as electron beam curing, also results in curing the disclosed resin compositions and providing shape memorizing properties.

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Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

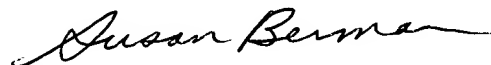
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 703 308 0040. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703 308 2462.

The fax number for this group is (703) 872-9310 or, for submissions after Final Rejection, (703) 872 9311.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

S B
08-10-2003



Susan Berman
Primary Examiner

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